

REMARKS

Claims 4 - 15, 18-23, and 39 - 51 are pending. Claims 2, 3, 16,17, and 24-38 have been canceled and claims 39-51 have been newly added. Claims 8, 9, 13, and 14 have been amended to reflect proper units. Support for the claims is found throughout the specification as originally filed. Applicants respectfully submit that no new matter is presented by these amendments and respectfully requests entry thereof.

In response to the Restriction Requirement, Applicants have canceled all of the original independent claims and presents new claims herein directed to a specific embodiment for the Examiner's consideration. These new independent claims are directed to a specific embodiment directed to particles comprising phospholipid and calcium as discussed in the interview of February 15, 2002. Applicants respectfully submit that this response is fully responsive to the restriction requirement.

Support for the claims is found throughout the specification as originally filed, for example at page 17, lines 12-23 and page 29, lines 10-20. As seen therein, the spray drying feedstock may comprise calcium chloride as a preferred excipient. Calcium chloride is soluble in water, and thus readily dissociates. For the benefit of the Examiner, Applicants submit herewith water solubility data for calcium chloride in water taken from the Handbook of Chemistry and Physics, 64th Edition, p. B-79.

Due to its ready dissociation in the aqueous feedstock, free calcium ions are able to interact with the phosphate groups of the phospholipid component of the feedstock to assist in forming the phospholipid matrix. As a result, the final dried particles comprise calcium complexed with the phospholipid, and may also comprise calcium chloride.

Applicants believe that all of the pending claims are presently in condition for allowance. Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made".

If it is believed that this will expedite prosecution of the present application, the Examiner is invited to telephone the undersigned attorney at the number below

Respectfully submitted,

Date: 2/28/02

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Version with Markings to Show Changes Made

In the Claims

Claims 2, 3, 16, 17, 24 - 38 have been cancelled.

4. The powder of claim [2] 39 comprising a mean porosity of 0.5 – 80%.
8. The powder of claim [2] 39 further comprising a fine particle fraction of greater than 20% w/w.
9. The powder of claim 8 further comprising a fine particle fraction within 30-70% w/w.
10. The powder of claim [2] 39 wherein the bulk density is less than 0.1 g/cm³.
11. The powder of claim [2] 39 wherein the bulk density is less than 0.05 g/cm³.
12. The powder of claim [2] 39 wherein said particulate microstructures comprises hollow porous microspheres.
13. The microspheres of claim 12 further comprising a shell thickness between 0.1 – 0.5 μm [nm].
14. The powder of claim [2] 39 wherein the mean aerodynamic diameter of said particulate microstructures is between 0.5 μm and 5 μm.
18. The powder of claim [2] 39 wherein said phospholipid is selected from the group consisting of dilauroylphosphatidylcholine, dioleoylphosphatidylcholine, dipalmitoylphosphatidylcholine, disteoylphosphatidylcholine, dibehenoylphosphatidylcholine, diarachidoylephosphatidylcholine and combinations thereof.
20. The powder of claim [2] 39 wherein said active agent is a bioactive agent.
21. The powder of claim 20 wherein said bioactive agent is selected from the group consisting of antiallergics, bronchodilators, pulmonary lung surfactants, analgesics, antibiotics, antiinfectives, leukotriene inhibitors or antagonists, antihistamines, antiinflammatories, antineoplastics, anticholinergics, anesthetics, anti-tuberculars, imaging agents, cardiovascular agents, enzymes, steroids, [genetic material] DNA, RNA, viral vectors, antisense agents, proteins, peptides and combinations thereof.

22. The powder of claim 20 wherein the bioactive agent is selected from the group consisting of nicotine, fentanyl, morphine, lung surfactant, [LHRH, PTH] parathyroid hormone, leuprolide, interferon, goserelin, and growth hormones.

23. A powder composition of claim [2] 39 wherein said particulate microstructure comprises a perforated microstructure.

Claims 39-51 are new.